The Journal

OF

The Kansas Medical Society

A MONTHLY MAGAZINE FOR THE BENEFIT OF THE PHYSICIANS OF KANSAS

COUNCIL:

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EFFECTIVE ORGANIZATION.

The value of the old-time medical organization lay almost entirely in the opportunity it offered physicians to get together now and then in unconstrained social intercourse. Even the formal papers read at the stated meetings were of secondary importance to this. Our newer organization, on the other hand, to be effective must go beyond this and offer help to the physician in his business as well as his profession. The necessity for this arises from the fact that the new organization seeks to gather within itself the whole profession, something which the old organization from its very nature could not do. The latter sought to make an exclusive aristocracy among physicians, but the former strives to make prominent the common interests of the whole profession. The fearful exclusiveness of the older organization was the best kind of incentive to quackery and sectarianism, since it made outlaws of all who did not meet the approval of the select few. The new organization on the other hand aims to wipe out quackery and sectarianism by demonstrating that even those would be quacks are better off if they adhere to the standards of honorable medicine. Like the Gates boy

in *The Sunday Magazine* (July 3), these men are to be won only by fellowship.

Now in Kansas we need first of all accurate information regarding ourselves. The existing directories are inaccurate to the point of absurdity;—there is no such man as your editor in Lawrence, according to the latest edition of *Polk*, while the *Standard* is hardly more reliable. Hence the officers of the State Society cannot know their forces or possibilities, or opponents. A full account of every practitioner must be on file somewhere easily accessible for study in case of legislative or other emergency. We, of the State Society, must rely upon the county secretaries for information regarding the men in each county. But how precious little of such information we actually receive can be seen from the paucity of local news in our JOURNAL. Even if something of importance occurs and the local physician is moved to write it up, there are nine chances out of ten that the information will be sent to some outside journal instead of to our own. In view of this fact, it rests with every consciencious reader of these lines to make himself a secretary and send us news and information, and then to see to it that his county secretary sends into this office (or to Dr. Huffman) a full account of every man practising in that county. We must have a card catalogue and that right soon, even if the JOURNAL has to send a representative out to gather the information.

Granted this accurate card catalogue, then we can easily communicate with each other and help each other to resist imposition (and malpractice suits), we can truly educate the public as to the meaning of honorable medicine and we can keep better informed as to successful methods of practice. The editors of the lay journals would then possibly cease to sneer at us and might even be induced to work for the abolition of infectious diseases and the promotion of hygienic living. Meanwhile let the JOURNAL know who you are and what you think, if you value highly your profession.

THE AMERICAN MEDICAL ASSOCIATION has 167 members in Kansas, and 378 others are subscribers to the *Journal* of that association. This means that 21 per cent. of the Kansas profession read *The Journal of the A. M. A.* About 40 per cent. of Kansas physicians now read this JOURNAL,—a number which must be increased to 75 per cent. this year. Who in your town does not receive the JOURNAL? If you will write us, we may be able to help you to lead these wandering ones into the fold.

RACIAL DECADENCE.

History is repeating itself in the nations of western Europe today, laying before us the same processes that blotted out Rome,—and Egypt—and Assyria—and before them imperial India and China. That part of the population best fitted by intellect and culture to propagate an ennobled race, is failing to reproduce its kind, while the peasant, the pauper, and the criminal, are unchecked in their fertility. Apparantly there are two causes at work to produce this result: one is the weakened physiques of the women in the "upper classes," and the other is the unwillingness of young married people of this class to forego luxury and personal ease in allowing themselves to have children. Even the English are awaking to the enormity of the disaster threatening the *Kulturvoelker*, and a prominent physician has recently worked out an elaborate study of the subject in his appeal to his colleagues for action.

In America and even in the newer states, as Kansas, we have these same forces at work,—and this is the point of our discussion—the movement is aided and abetted by many so-called reputable physicians. The prevention of conception and the performance of abortion have become so common as to have lost their ugliness even to the sensitive medical conscience. Now it is not necessary for us here to delineate *seriatim* the evils resulting to the people themselves on the one hand and to the nation on the other from these practices,—for physicians must by nature be thinkers and only a little thought on this matter will demonstrate the seriousness of the situation. Hence we shall content ourselves with asking our readers to think out the matter conscientiously and then try both among their colleagues and among their patients to stem the current that has set in toward race suicide. Besides this, we would ask our readers to give more attention to the physical development of the girls, and to the instilling of nobler ideas of purity among the boys. The treatment of unmarried mothers (see *Journal of A. M. A.* for July 2 under "Correspondence,") and of justifiable abortions should not be handed over unceremoniously to leathery consciences, but should receive our most serious attention. It requires of course a tremendous amount of tact to care for these cases and have our patients come out from our care with nobler ideals and greater virtue, yet one or two cases of success in these matters will atone for a multitude of failures—so great is the value of a saved soul.

RADICAL OPERATIONS FOR HERNIA.*

HAL C. WYMAN, M. S., M. D.

Professor of Surgery, Michigan College of Medicine and Surgery, Detroit.

Doubtless the first surgeon to enter this state was one of the medical force attached to the expedition of Coronado in search of the wonderful cities of Cibola, at which time he penetrated the wilderness in what is now Kansas as far as the Kaw river. And, doubtless, in the days of those men, hernia was as much a menace to the health and happiness of the soldiers of the great explorer as it is today a menace to the comfort and usefulness of the members of the National Guard. We have had hernia doubtless as long as we have had men, and we will continue to have it until such time as the development of the human body occurs without flaw or blemish. Hernia means a want of sufficient tissue or substance in the abdominal wall to close in and keep in proper position the contents of the abdomen, and when there is an insufficiency of muscle or of facia in any part of the abdomen we may expect sooner or later that the intestine will protrude through this opening and distress the patient with pain and swelling and menace his life by strangulation.

We do not limit hernia except insofar as it is related to the intestines when we speak of radical operations for the cure of hernia, and no operation, no matter how ingenuously devised or skillfully executed will cure hernia that does not either increase the capacity of the abdomen or diminish the volume of its contents. For the sake of terseness I may be permitted to define hernia of the intestine as a condition in which the patient has either too much gut or too little belly, and sometimes both. This view may simplify measurably the methods which are resorted to for curing the disease or infirmity. When a particular part of the abdomen, the inguinal region for example, is the seat of hernia we find the following organs concerned, *viz:* The skin, superficial fascia, external oblique muscle, the ligament of Poupart, internal oblique muscle, spermatic cord, herbial sac and contents, transversalis muscle and fascia, and peritoneum. In dealing with these structures so as to obliterate the opening between them through which the peritoneum and intestines protrude we first divide the skin with a sharp knife and then the fascia and separate the fibres of the external oblique muscle from

*Read before the Golden Belt Medical Society at Abilene, Kansas, April 7, 1904.

attachment to the ligament of Poupart and with retractors drag them away so that the slit or aperture between the internal oblique and transversalis muscle and ligament of Poupart with the spermatic cord and the hernial sac may be plainly seen. In fact, if I am to emphasize any feature of the surgery of hernia let me do it by calling attention to the need of an ample field about the internal abdominal ring. Then we attack the sac, open it, inspect its contents; if there are no adhesions and only loops or coils of intestines are included they are put carefully into the abdominal cavity where they belong, then the sac is drawn carefully out, separated from its relations to the spermatic cord, a ligature is tied about it close up to the abdomen, and the protruding portion is cut away. Then the cord is pushed well into the cavity of the abdomen, the transversalis fascia and muscle is dragged downward to the ligament of Poupart as far as the pubic spine. The internal oblique muscle is treated in the same way, even at the risk of separation of some of its fibres, and by a system of interrupted or continued sutures a blending of the ligament of Poupart and the abdominal muscles already mentioned is accomplished. If care is taken not to draw the sutures too tight, nor to carry them so far toward the median line of the body that the cord is strangled there will in nearly every instance, result a perfect healing of the parts which accomplishes the cure of the patient. But, in case the contents of the sac are found more or less adherent, that coil is glued to coil of intestine by adhesions, and a mass of omentum is incarcerated in the sac, then, before restoring the intestine to the cavity of the abdomen, it should be dragged out, the omentum should be carefully cut away after secure ligation and adherent coils of intestines should be resected and an end to end approximation of the intestine practiced. This secures a diminution of the volume of the abdominal contents and proportionately diminishes the strain upon the congenitally weak abdominal walls. Then we should proceed as before, unless the hernia happens to be a very large one with an opening an inch and a half or more in diameter, in which case we will find such a separation of the fascia transversalis or the internal oblique and external oblique muscles from the ligament of Poupart that it would be impracticable to bring these organs together by any system of suturing, except it be by the introduction of a permanent mattress suture of steel, silver or gold, which may be thrown in between the muscles and the ligament of Poupart in such a way as to form a permanent mesh that occludes the hernial canal.

This procedure has some time proven satisfactory, but a better

method to meet this extraordinary occasion is found by a flap operation, utilizing a part of the fascia lata by cutting from the falciform opening outward a distance of two or more inches parallel with the ligament of Poupart then an incision upwards to the ligament of Poupart, leaving a flap of fascia lata with three borders free, the upper one attached to the ligament of Poupart. Now this flap is turned upward and by sutures drawn into the space and secured between the transversalis fascia and the peritoneum, effectually plugging or closing the large slit between the ligament and muscles through which the hernia has occurred. And here the spermatic cord will be carried inward toward the spine of the pubis where it will not interfere with the suturing of the flap nor favor the relapse of the hernia.

I have not found it necessary to transfer the cord from its natural position to a new one over the abdominal muscles and beneath the fascia and skin, I think its presence at the lower end of the inguinal canal is an advantage rather than otherwise. Nor have I found it necessary in these operations upon men to be always particular to remove the hernial sac, and sometimes in women I have been able to restore the sac along with the round ligament to the cavity of the abdomen in such a way that when the suturing of muscle and ligament was completed, the sac and ligament served as a pad to choke the weak points in the abdominal wall against hernia.

It is almost impossible to write about radical operations for hernia without mentioning the names of Bassini, Phelps, McBurney and sundry others who have enriched the literature of hernia by their writings descriptive of improved methods of operating. But I have thought best on this occasion to proceed directly to the different points in a case of hernia where the desire is to accomplish a radical cure. And consequently I have found that cases differ so much that it is quite easy in looking at the general principles to overlook an important item of detail in the case under operation on the proper handling of which the cure will depend. For example, in following the method of Bassini more care may be taken to secure the cord in a safe position than to close the internal abdominal ring. And it goes without saying that no operation for hernia will give a satisfactory result that does not choke and close this opening completely; so far as inguinal hernia is concerned, there is only one sure method of radical cure and that is efficient closure of the internal abdominal slit, and it matters not whether that is accomplished by dragging muscles down and fastening them to the ligament of Poupart or introducing some foreign body like wire or

plate or the use of a flap from the fascia lata which will close the opening at the same time that it increases the capacity of the abdomen.

Now in hernia of the umbilical region the flap method as practiced by the Mayos in Minnesota is as near perfection as it is possible to get, but here perhaps more than anywhere else it is of prime importance to diminish the volume of the abdominal contents either by resection of omentum or intestine or both if there are adhesions to the sac. And to increase the capacity of the abdomen by devising a flap from the external sheath of the recti muscles and so gaining more tissue and capacity for the abdominal wall. The Mayo's operate radically for hernia through a transverse incision, and secure an overlapping of the recti muscles in a transverse direction. This method has in their hands been very satisfactory. In one case where I have practiced it notwithstanding the fact that there was a perfect closure of the umbilical opening, there was a subsequent spontaneous separation of the recti in the median line above the umbilicus and through this the hernia reappeared. The cause was that I had not removed enough of the abdominal contents, *i. e.* omentum and intestine, nor had I closed the abdomen in such a way by flaps that its capacity was increased.

Probably the herniæ which are the cause of most chagrin to practitioners of surgery are the ventral hernia, those which follow operations upon the appendix, upon the round ligaments and in the middle line of the abdomen. The cure is not as simple nor as easy as the tyro might think. Care must always be taken to secure a perfect overlapping of the peritoneal surface of the transversalis fascia and muscle. Then the fibers of internal oblique or of the recti must be superimposed so that there is no chance for the protrusion of intestine. In these cases it is well to diminish the contents of the abdomen either by direct resection of omentum or intestine, or by a diet and hygiene which diminishes the intestinal contents.

The after treatment of all radical operations for hernia involves an early evacuation of the bowels. It embraces a dressing of simple powder, gauze and cotton secured by rubber adhesive plaster laid on for the mere purpose of securing the dressing, and not embracing the abdomen as a bandage would. Such after treatment recognizes the fact that it is essential to the cure that the abdominal wall must be entirely free to expand and gain more room for its contents in every direction. A bandage of cotton or linen is always more or less unyielding, bands of trousers and gowns are likewise unyielding and must not be permitted by the surgeon unless special

amplitude is provided in them. Diet after operation should be as radically different from that to which the patient was before accustomed as it is possible to select, consistently with the strength and comfort of the patient. If these views are carefully practiced very few cases of radical operation for hernia will relapse.

SYMPTOMS THAT MAY BE ATTRIBUTED TO THE PERPENDICULAR POSITION.

HOWARD H. MOSES, B. S., M. D.
Salina, Kansas.

The change of position from the horizontal to the perpendicular in the human species, undoubtedly has influenced the organism to some extent; not only in the anatomical relation of its parts, but it can be claimed upon the same ground that there must necessarily be a corresponding aggravation of the symptoms when those organs are pathologically changed.

The object of this paper is not to prove that such is the case, but only to point out a few of the many symptoms that may be so attributed to this change; in the hope that the profession may observe along this line and possibly something more tangible may result from it.

In discussing anatomy and embryology of the human, we consider man as occupying a horizontal position. The anatomical parts and their arrangements varying so little from that of the many animals that occupy that plane, that no separate classification or description has been made. For it is taken for granted that all scientists believe that man has evolved from a lower organism, as embryology shows.

The thorax, made up of a bony wall, is practically the same, yet serving a different purpose in man. In the four footed animals the sternum with the adjacent ribs act as a support to the thoracic organs which are not suspended from the spinal column; it also serves as a protection to the vital organs contained therein. On the other hand the human ventral wall is no support to the lungs and the heart, but

only acts as a protection thereto. The diaphragm, common to both, in man must act as a support to the organs, which inthe animal is supported by the bony sternum and ribs.

In the abdominal cavity a radical change takes place in the mechanism. All the principal organs are supported by the mesentery and ligaments from the spinal column. The massive liver receiving some of its support from the bony sternum and ribs. It being the largest and heaviest organ of the abdominal cavity, and by nature of its weight has come to lie ventral; the stomach above the intestines filling up the intervening spaces between the various organs as well as occupying considerable space by themselves. In the female the uterus lies not ventrally but is hung within the pelvis, free from undue pressure.

Notice the great change when we pass to the upright man. With a change in the center of gravity, instead of the weighty liver being lowest, we find it in its relative position, but altered, lying upon and pressing down all the organs, until its point of fixation has become changed.

In general, the peritoneum, the mesentery change their course, there is a sagging, due to the increased pressure upon them. The uterus which in the horizontal animal was suspended with little pressure to influence it, now becomes pushed downward, lies when in a normal position, at the angle of 45°, antero-posteriorly in the pelvis, suspended by the peritoneal broad ligament and the round ligaments, and bearing the weight of the intestines, liver and stomach which if in an engorged condition may be equal to many pounds in weight.

Should there any pathological changes take place, would not the pressure of one or more of these organs upon the other tend to cause symptoms, as of tenderness, pain, sharp or shooting, as a direct cause of the change of position and the results therefrom?

Consider the many female afflictions. Anteversion, retroversion flexion, engorgement and inflammation of the uterus, together with the many pathological changes in the ovaries and tubes, accompanied by a lax abdominal wall, a pendulous abdomen, the whole intestinal tract, liver included, lying and pressing upon the pelvic organs. All this is bound to cause pain, which would not be so aggravated if it were not due to the upright position.

Many of these symptoms can be relieved when the woman seeks the horizontal position, relieving that pressure, together with rest, and she will be placed on the road to recovery.

In the four-footed, the total weight of the body is borne almost equally by the four appendages. The spinal column made up of the vertebræ has but little weight to support. The pelvis is not a structure designed to support the whole body, but only a portion. But when the time comes for the upright position, the anterior limbs become prehensile organs and loose their locomotive function, thus producing a greater freedom of motion. The vertebræ of the spinal column must bear the weight of every one anterior to it. The sacrum, the last of the true vertebræ, wedge shaped, is pushed down into the pelvis arch by the weight above, and the total weight of the body comes to lie upon the pelvis supported by the posterior limbs, causing thereby a change in the direction of the nerve trunks and circulatory canals, to such a degree if it were not for the gradual development into this position serious consequences would result.

When we have patients, and of this class there is a multitude, complaining of pains in the back, the shoulders, radiating anteriorly, running down the thigh, we should always think of the pressure produce by altered conditions. To them it seems kidney trouble, it may be lumbago, or of rheumatic origin. But in the main, can we not attribute it in many cases, where there has been undue strain on those parts just considered, and to increased pressure upon those structures that by evolution have come to bear an increased weight?

These symptoms are but a few that could be enumerated, but I hope a sufficient number have been given that others may direct their attention along these lines, and come to believe that some of these symptoms may be attributed to man's upright position.

WORLD'S FAIR NOTES BY A KANSAS PHYSICIAN.

About the middle of June, the grounds of the Louisiana Purchase Exposition were still unfinished in places, and many exhibits were not yet in place. In fact, so many exasperating evidences of incompleteness still existed—nowhere more conspicuously than in the American Art Exhibit, but quite noticeable everywhere—and the distances between points of interest were so great that the fair rather impressed one as a big fifty million dollar show on a hundred million dollar site and under a twenty-five million dollar management.

No doubt much of the unpreparedness then manifest, has by this time disappeared, but even if it has'nt, no one at all interested in the world's human occupants and their various activities can afford to miss seeing this wonderful show, particularly one who failed to see the Chicago exposition. World's Fairs are becoming such troublesome, expensive, monstrous affairs that it will be many years before any other American city will venture to undertake the thankless and profitless task of getting up a fair on a scale as elaborate and elegant as the one at St. Louis.

About the first question usually asked of one who has been to both the Chicago and St. Louis Fairs is: "How does it compare with Chicago?" Opinions on this question differ, of course, but probably very few persons would maintain that the St. Louis Fair, on the whole, is inferior to that of Chicago. Many even insist that the St. Louis Fair surpasses the Chicago Fair. In size and variety of exhibits perhaps it does, but in certain other particulars this is not true. The only seriously disappointing feature to many who visited the Chicago Fair is the view one gets upon entering the grounds at the "main entrance." Before you is the St. Louis Plaza (corresponding to the Grand Court at Chicago) and this area is a vast expanse of vacancy bordered by rather unimpressive buildings which are nearly hidden from view by too large and too closely arranged trees, while straight ahead in the far distance on a slight elevation at the head of a kind of stairs is seen a squatty structure which very closely resembles an old fashioned bee hive, Festival hall. Chiefly owing to too great width of the area described, the superbly elegant massiveness of the Grand Court at Chicago is wanting, and the result is undoubtedly disappointing to many.

But much of this dissatisfaction is mellowed by a nearer approach to the "bee hive." The elevation on which it stands becomes quite a hill and the "stairs," a beautiful succession of cascades, while Festival Hall looms up before one an an enormous and artistic dome-like structure. Looking back now toward the main entrance, the elevation and the change in direction assumed has made a great change in the view presented. The unimpressive buildings become more stately; the water below the cascades adds to the beauty of the scene and the feeling of disappointment experienced a short while before largely vanishes.

Some of the finest sights at the fair comprise the various areas of landscape gardening between the principal buildings. The hillside below Festival Hall and the sunken garden are especially worthy of mention.

The architecture of all the large buildings, when viewed at close range, is found to be superb. The nearer one gets to them the bigger and prettier they become. The state buildings, generally, are also unprecedently large and handsome. Kansas people will find that their own building compares quite favorably with the other state buildings in size and appointment.

Every visitor to the fair should take a ride in the observation wheel (the old Ferris wheel of Chicago). The cars of the wheel are so large and move so slowly that neither dizziness nor fear is felt in making the trip, even by the most timid, while a very fine bird's-eye view of the grounds and of St. Louis and the Mississippi river in the distance may be had.

Of the "pike" little need be said Many of its attractions are more or less interesting, but which are the most so must be chiefly a matter of taste.

One of the most interesting, instructive and impressive features of the fair is the presence of people of nearly every race and clime. In quite a few instances, their mode of living and their methods of work may even be seen. Their products are of course in evidence on every hand and the skill displayed by people whom we may regard as quite inferior to ourselves, is at times almost startling. The numerous and varied exhibits of the Japanese are particularly striking and handsome.

Every Kansas physician should make it a point to visit the fair at least a week, notwithstanding the fact that medical men as a rule, can leave their work only with the greatest difficulty. Indeed very few have "time to go." but the busiest doctor with the least time to

spare, needs to go the most. It will be a long time before another opportunity will present itself to Kansas physicians to see a fifty million dollar show for fifty cents, no farther away than St. Louis. Especially urgent is it for the doctor who "just can't go," to go, and to take his good wife with him! She needs and deserves the pleasure, exhilaration and "up-lift" afforded by a trip to St. Louis this fall as much as does her dutiful, hardworking husband.

E. T. S.

FOURTH DISTRICT.

I have been waiting for the supplies of the constitution and by-laws before proceeding with the organization of our counties. As soon as they arrive we shall get to work.

O. J. FURST, *Councillor.*

FIFTH DISTRICT.

The floods prevented the Golden Belt meeting scheduled for July 7 and therefore nothing definite has been accomplished in the work of organizing our counties.

EDW. E. HAZLITT, *Councillor.*

THE SOUTH-WEST DISTRICT.

A meeting was held May 26 at Dodge City under the presidency of Dr. S. J. Crumbine. At 10 a. m. a business meeting was held at which it was determined to change the form of organization to that of a multiple county society and preserve the title, "Sixth District Medical Society," and add thereto, "and The South-western Counties Medical Society of Kansas." This puts the district in line with the state constitution and gives it a chance, should the professional population sufficiently increase, to organize county societies within its territory.

The officers for the next year are, President, Dr. A. B. Scott, Jetmore; Vice-President, Dr. O. L. Helwig, Garden City; Secretary, Dr. C. E. McCarty, Dodge City; Treasurer, Dr. R. T. Nicholls, Liberal; Delegate to the State Society, Dr. G. W. Hollenbeck, Cimarron.

It will be noticed that because of its form of organization this society sends delegates to the State Society,—the district societies cannot have representatives in the House of Delegates. Of course the House of Delegates will be very small, but by holding its meetings separate from the other sessions of the State Society and limiting the voting strictly to the delegates, a much more satisfactory business department will result.

In the afternoon the following scientific program was enjoyed:

President's Address—Dr. S. J. Crumbine, Dodge City, Kansas.

Medical Treatment of Appendicitis—Dr. W. B. Elting, Burdett, Kansas.

Rheumatism—Dr. T. C. Bowie, Hodgeman, Kansas.

Prescription Writing vs. Dispensing—Dr. R. T. Nicholls, Liberal Kansas.

Report of a Case—Dr. H. W. Garnett, Dodge City, Kansas.

Concussion of the Brain—Dr. T. S. Venard, Ness City, Kansas.

Report of an Interesting Case—Dr. Andrew Sabine, Garden City, Kansas.

Report of a Case of Stricture and Treatment of Same—Dr. A. B. Scott, Jetmore, Kansas.

Notes on Summer Diseases of Children—Dr. Mary B. Wakeman, Lakin, Kansas.

Eclampsia—Dr. J. C. Bredehoff, Bucklin, Kansas.

Appendicitis—A Surgical Disease—Dr. H. G. Welsh, Hutchinson, Kansas.

Report of a Case—Dr. C. A. Milton, Dodge City, Kansas.
Two Cases of Syphilis—Dr. O. L. Helwig, Garden City, Kansas.

The Sixth District is congratulating itself upon the election of ts former president to the secretaryship of the State Board of Health.

C. E. McCARTY,
Councillor for the Sixth District.

HARVEY COUNTY.

Harvey County Medical Society met in Dr. Miller's office, Newton, Kansas, Wednesday evening, June 8. Those present were Drs. Axtell, Abbey, Bennett, Cooper, Haney, McElree, Miller, Smith and Smolt. The secretary was instructed to collect $2.00 from each member to pay our membership in the State Society. Also to try to get every physician in the county to become a member.

Officers were elected as follows: *President*, A. E. Smolt; *Vice President*, G. D. Bennett; *Secretary*, Frank L. Abbey; *Treasurer*, L. T. Smith. A paper, "Diseases of the Gall Bladder" was read by Dr. Axtell and discussed by several. Light refreshments were served. Our society meets monthly.

FRANK L. ABBEY,
Secretary.

The Harvey County Medical Society met in Dr. Miller's office Tuesday evening July 5, 1904. Probably owing to threatening weather the attendance was small. Those present were Drs. Bennet, Axtell, Miller, Cooper, Abbey and medical student, John Grove. Vice President Bennett presided. Dr. Bennett reported a case of lateral dislocation of the knee with extensive injury to the ligaments. Dr. Axtell gave report of recent operation for gall-stones with obstruction of the common duct and extensive adhesions and impending perforation of the gall-bladder. He was not able to clear the common duct but removed twelve stones from the gall-bladder and left drainage. In three days several other stones passed by the bowel and the extreme jaundice rapidly disappeared. Dr. Cooper

gave a report of the use of transfusion of salt solution in the case of a young man apparently about to die from shock after a railroad accident. Hypodermoclysis had been previously used without apparent effect. Intravenous use of salt solution, one gallon, at 110° Fah. was followed in ten minutes by return of consciousness, strong radial pulse, warm feet and hands and profuse diuresis. Amputation of the injured limb the second day was successful.

FRANK L. ABBEY,
Secretary.

BULLET WOUNDS IN CIVIL PRACTICE.

DR. HUGH WILKINSON.
Kansas City, Kansas.

This subject was chosen to distinguish the ordinary wounds, such as those from a colored ruffian's bulldog revolver or the small target or squirrel rifle, and the wounds seen in modern military and naval practice.

In a large city such as ours with the numerous thugs and midnight browlers about, the former wounds are of daily infliction. With wounds of the latter class few of us will ever deal.

I have made a distinction also, because there is a great difference in the wounds caused by the comparatively large bullet of an ordinary revolver or rifle, made of soft, unjacketed material, and with slow velocity, and close range and the damage inflicted by a modern military rifle, with its long slim bullet of small calibre, seldom more than 35, covered by a hard metal jacket to preserve its form and reduce friction, with tremendous penetrative power, and wounds produced usually at long range.

The bullet wound with which we, as civil practitioners, have to deal, are more like the wounds produced in warfare years ago, when the round lead ball was used in an old fashioned musket. The damage done is more similar than to the wounds of late wars.

The soft, slow-moving bullet of an ordinary firearm at moderate range may produce a variety of wounds. It may merely strike the

surface without perforation of the skin, producing a simple contusion; it may puncture the skin leaving a wound of entrance circular, or with several everted flaps and more or less contusion, and making no exit but lodging some place within the body, either near the entrance wound or at varying distances from it; then again the bullet may enter as just described and take a direct or indirect course to make a wound of exit of larger size than the entrance, usually a slit or with several everted flaps.

Besides these three usual varieties the bullet may re-enter the body and lodge, or even come out and make a fourth external wound.

The bullet in its passage may produce the simplest possible punctured wound or it may go in all sorts of directions, its course being changed by contact with various organs, fascial and bones. The bullet may be somewhat deformed but usually not markedly so unless bone is met with in its passage, when it may be smashed into an unformed mass of lead.

The tissues through which the ball passes are usually more or less bruised about the wound. This is more true the higher the velocity and the closer the range, due to the so-called explosive effect. But with the ordinary bullet and firearm the explosive effect is not marked. I might explain that by this term we don't mean that the bullet is in any manner explosive in itself, but that its sudden entrance into the tissues causes a wave of force to be transmitted in every direction, and so suddenly, that the tissues explode, as it were, and more or less damage results according to the strength of the impact. This is most noticeable in cranial injuries and in those of the solid viscera, as the liver and spleen.

The picture seen in most modern surgical text books of a barrel of water into which has been fired from above directly downward a bullet from a high power rifle illustrates the explosive effects of a bullet in the body. The staves of the barrel, though made of oak, were split in many places and the steel hoops broken by the lateral expansion caused by the sudden, powerful entrance of the bullet.

In this class of wounds secondary hemorrhage is very liable from the fact that in its passage the bullet is more liable to bruise than to puncture a vessel, unless it strikes squarely, the bruised tissues not giving away at once. Still, with proper asepsis, secondary hemorrhage is far less frequent than in former days when those means were unknown.

Another danger more common in our practice than in military is the chance for primary infection. The slowness of the passage,

the character and largeness of the bullet and the usually close range make the possibility of infective material much greater. The commonest cause of the latter mishap is the carrying into the wound of fragments of clothing, the bullet per se seldom infecting the wound.

In the *diagnosis* of gunshot wounds we have an endless variety of things to look out for. The location of a wound makes a certain diagnosis as to unseen injuries more or less important, an exact history of the event should be obtained, kind of weapon used, range, direction from which bullet came, positions and any other similar point which we can get hold of. The wound of entrance must be determined and this, with the history of the event, will help us locate the exit if there is one. With the two openings, or the entrance and other points mentioned, we can form some opinion as to the unseen injuries and judge as to the kind of treatment necessary.

If we find two wounds and are at a loss to know which is exit and which is entrance we must remember that the entrance is usually the smaller one, and a possibility of powder stains may help us some. The inversion or eversion of flaps is not positive proofs of either one. Then, the history of position will aid materially.

If the abdomen is injured we must ascertain first whether the peritoneal sac is punctured, and this by means absolutely aseptic. We must note location of wounds and probable organs injured and plan our treatment accordingly.

If the chest is wounded we have the same diagnosis to make as in the abdomen as to the puncture or non-puncture to the serous sac. If it is, the question of how serious the lung injury arises. In both cases we must judge of the amount of shock and whether it is all surgical or from hemorrhage, considering the chances of ligation if laten is present.

In the *treatment* of bullet wounds there is one point to be ever borne in mind *i. e.* a bullet on entering the body is, in an overwhelming per cent. of cases, for practical purposes, aseptic. And unless it carries with it pieces of clothing, or other septic material, the wound it makes is aseptic and will heal kindly if not infected by meddlesome measures.

The dangerousness of a bullet wound depends in a large degree "upon the degree of asepsis observed during the first examination and dressing." Of course when we make these statements we mean in wounds where the location itself does not make them septic, as in bowels and lungs. These are always septic.

When one is called to a bullet wounded person it is his first duty

to leave it as "severely alone" as possible until he can have the most advantageous place he can get to work in. His only duty is to put on the simplest and cleanest possible protective dressing and make his patient as comfortable as he can until he can take him to some hospital, kitchen or extemporaneous surgery. In this I am presuming that there is no grave complication, as the injury of a brochial or femoral artery. Of course such as these demand immediate action, and quick too, regardless of pus microbes, which for once are the lesser evil.

A large per cent. of the seriousness of bullet injuries can be traced to a dirty probe incautiously used. The first bullet wound with which I ever had anything to do with resulted in the death of the individual, and I am positively certain it was due to the ignorance of the first attendant who needlessly probed without indication and with absolutely no antisepsis, either at the time or in after treatment.

A bullet does its harm in passing, and often that seldom does any damage of itself, unless interfering with some vital function. If it punctures some internal organ we must repair or treat as soon as possible by the usual methods. The longer the delay, regardless of shock, the greater the mortality. The treatment of such is no different from wounds by other agents.

If the bullet hits any of the fleshy parts, as the limbs or the back, a proper treatment is to cauterize the openings with strong carbolic acid on a tooth pick swab, to be materalized by alcohol. The surrounding areas must be previously thoroughly scrubbed and disinfected in well known ways. Hairy parts should be cleanly shaved. After this a small drain of suture material or gauze in the opening for twenty-four or forty-eight hours is indicated, not too deeply placed, however. Cover all this with sterile boric acid or boracetanile and a simple dressing of dry gauze and cotton.

If the bullet can be felt immediately beneath the skin it is proper to incise and remove. But ordinarily the proper thing is to leave the bullet alone till it causes some symptom sufficient to indicate its removal.

This applies to the simple cases. The numerous possibilities in this class of wounds would take pages to tell about. We have brain wounds to deal with and the same rule applies here as in other parts, though the injuries are necessarily so much more serious it is often difficult to decide what to do. If there are symptoms which give us sufficient indication as to the location of the ball we are justified in following it up. Not all brain wounds are hopeless. It may cause

facal symptoms from irritation of the Rolandic area. Its removal in this case may be comparatively easy. It may have cut the meningeal vessels and caused the characteristic symptom of that accident. A craniatomy is again indicated to tie that vessel. The Nelaton probe may be of use in tracing the bullet, but most of the apparatus with telegraphic attachments would be impracticable for us as general doctors.

Close range wounds through clothes are very liable to contain septic matter and such wounds, or those with any possibility of such matter in them, should be straight way properly laid open by incision, cleansed and drained and antiseptic absorbent dressing put on.

Wounds thought to be aseptic and treated by the simple means above described, but later becoming septic, should not be parleyed with but should be laid as wide open as possible and thoroughly cleaned, disinfected with carbolic acid and alcohol, or tincture of iodine, or both, followed by irrigation, iodoform packing and copious dressing. They may be partially sutured providing ample drainage outlet is left.

Compound fractures from bullet injuries are more serious, if possible, than those from other agents. I would advocate conservatism in their treatment just as long as the septic symptoms stay away, but on the advent of these amputation is justifiable at once and well away from the wounded area.

DR. R. M. WILSON of Meriden, Kansas has removed to Guffey, Colorado.

DR. S. J. CRUMBINE, the newly appointed secretary of the State Board of Health has moved to Topeka.

DR. CHARLES ROCKHOLD, College of Physicians and Surgeons, Keokuk, 1874, died at Parsons from Paralysis, June 18.

THE AMERICAN MEDICAL ASSOCIATION has appointed its next year's meeting at Portland, Oregon for July 11-14. We must all go.

VOLUME ONE of this JOURNAL is still in demand. Can you supply a set? We are very grateful to Dr. A. C. Flack of Fredonia for one set of this volume.

DR. H. K. COWEN, Midway; Dr. H. G. Welsh, Hutchinson; Dr. A. E. Walker, Anthony, have become members of the American Medical Association.

DR. MINNEY, of Topeka, reports a case of iritis where 190 grains of potassic iodide are given three times a day and yet without constitutional disturbance and with an excellent effect on the gumma.

THE MOST SUCCESSFUL state societies, as well as the national are having all the collections and dues, etc., pass through the secretary's hands, thus relieving the treasurer of a great deal of work and making possible a smaller office force.

DR. J. C. MCCLINTOCK was recently elected superintendent of Christ's Hospital, to fill the vacancy caused by the resignation of Dr. Eastman. The management of Christ's Hospital is to be congratulated upon their good fortune in securing the services of Dr. Mc. Clintock.

DR. LAWRENCE CHAMBERLAIN, gynecologist of the Kansas Medical College, and his wife have returned from an extensive trip in New Mexico, Arizona and California, where he went on account of ill health. The doctor is restored to health and has resigned the superintendency of Christ's Hospital and has formed a partnership with his father-in-law, Dr. J. P. Lewis, and will practice in Topeka.

THE EDITOR OF THE LAWRENCE JOURNAL, with his accustomed kindliness toward our profession, thinks because the Commission has asked for 300 physicians to take care of the health of the laborers on the Isthmian Canal that thereby comes in the danger of the project's being "top heavy." When we consider, however, that some 50,000 men will be employed on these works 300 physicians does not seem very much too great a number to control the sanitation of the zone. If the work were to be done in a temperate climate probably 100 would be sufficient.

THE MICHIGAN STATE SOCIETY makes the following financial report this year:

Cash on hand at 1903 meeting	$1,065 02
Dues from members	3,509 00
Refund from Mich. Pass. Agt	6 00
Advertisements	1,996 89
Subscriptions	5 72
Blanks for county societies	15 19
Rebate	1 50
Total Receipts	$ 6,599 32
Printing and Mailing *Journal* (11 months)	$ 3,541 82
State Society expenses	381 34
Commission on advertisements	394 76
Treasurer's salary	12 50
Secretary's salary (11 months)	275 00
Editor's salary (11 months)	275 00
Councillor's expenses	218 00
Reporting meeting, 1903	200 00
Total expenditures	$5,298 42

Their *Journal* prints 2200 copies and sends to paid up members 1680, to unpaid members 342, to advertisers 63, to libraries 10, to exchanges 10, to medical publishers 7, to editors *Medical Progress* 30, complimentary 5.

OSTEOPATHIC TREATMENT FOR OVARIAN CYST—"I cannot take time to enumerate all of the lesions, bony, muscular, ligamentous, etc., you ought to expect. For bony lesions you must look all along down both sides of the spine from the tenth dorsal vertebra to the end of the coccyx. The innominate bones have revealed some lesion in every case of abnormal cyst I have treated. Difficult to discover, but almost sure to exist, the lesion must be found and corrected. I give close attention to sacral nerves, especially where they emerge

from foramina as well as to the glutei muscles. Fine results may be expected from carefully stretching the sphincter ani. After treating the tissues in close relation to the tumor, I spend one or two minutes vibrating the tumor itself. A few seconds may be given to inhibiting the inferior hypogastric plexuses, occasionally doing the same to solar, hepatic, splenic, and other plexuses. Bearing down pains may be relieved by a light inhibition on both sides of the clitoris. The costa and iliac vessels should be gently lifted and manipulated. The spine itself should be stretched and vertebræ too close should be spread. The muscles of the thigh may be stretched and rotated on femur adduction, and abduction being given as the limb is extended. In some cases we shall fail unless some work is done at perineum and labia." Riches in *Osteopathic World*, Nov. 1903, quoted by Dr. O. T. Osborne in *The Journal of the A. M. A.* for July 2, 1904. Would you like to have your wife, sister or a friend treated thus? It is well that osteopaths are high cultured moral gentlemen!

GALL-BLADDER PATHOLOGY—MEDICAL AND SURGICAL TREATMENT.*

H. G. WELSH,

Surgeon in Chief, Welsh Hospital, Hutchinson, Kansas

This is a subject of great interest. It is interesting to the internist, the surgeon and greatest of all to the laity. Some diseases are of interest because of their rarity; others on account of their frequency and of the means employed in their treatment. In this country, according to Mosher, about 1 in 14 people have gall-stones; it means a great deal. In Germany it is more frequent, 1 in 8, Naunyn says 25 per cent, or 1 in 4, of all women over 60 years of age have gall-stones. Shroeder places it at 20.6 per cent, or a little less than 1 in 5. Mosher's estimate in American women is much less, being 9.37 per cent, or a little less than 1 in 10.

However frequent this disease may be, it is evident that very many of the cases, perhaps $\frac{2}{3}$ or $\frac{3}{4}$, are not recognized during life. This is due partly to two causes; first, some few people have gall-stones without any deleterious effects from them; and secondly, the cardinal symptoms of gall-stones, as laid down by the older authors, which we expect to find before making a diagnosis, are only found in exceptional cases. Therefore a true diagnosis is only occasionally made. Kehr believes that symptoms of gall-stones occur in only 5 per cent of cases. I believe, however, that he is wrong in this. The trouble is that we do not recognize the symptoms they do produce. We have learned to diagnose appendicitis and inflammation of the bowels which used to be so fatal, now seldom occurs. When we learn the symptoms of cholelithiasis there will be fewer cases of gastritis, of gastralia, and other symptoms of this trouble that are now considered and treated as diseases *per se*.

As to the etiology of gall-stones it matters but little, as I believe we can do nothing to prevent their formation. If tight lacing is a cause, I am afraid the medical fraternity is not strong enough

*Read before the South Kansas District Medical Society at Wichita, April 20, 1904.

at present to put a ban on the corset. If a lack of balance between indigestion and assimilation is one cause, it would simply be out of the question for us to try to regulate this. So long as the gall-bladder retains its normal anatomical position, and is mechanically perfect there is no occasion for treatment, because it becomes distended with bile, which is a non-irritating fluid and empties itself. These functions give rise to neither pain, irritation nor discomfort. Anything that will block the lumina of the ducts, interfering with the drainage of this viscus, will cause a certain amount of residual substance which makes the accumulation of bacteria possible, causing an inflammation which may be only catarrhal at first, but later destroying the mucous membrane, resulting in cicatricial contraction and further obstruction.

Ochsner has found "a distinct interference with the natural drainage of the gall-bladder" in most of his cases. "In many cases this was caused by a drawing down of the gall-bladder, due to adhesions to the omentum or transverse colon, or both, probably due to adhesions caused by a peritonitis resulting from a perforative appendicitis which the patient had sustained many years before." "In other cases there was a pedunculated gall-bladder which has been attributed to the effects of tight lacing, and as in my cases this condition occurred only in women, it seems possible that this view is correct."

The colon bacillus is found with great regularity in gall-bladder disease and gall-stones. Cushing found that 30 per cent of gall-stone patients operated at John Hopkins Hospital had previously suffered from typhoid fever and Ochsner found more than 35 per cent of his cases had suffered from acute or chronic appendicitis. Whether or not appendicitis or typhoid fever have anything to do with the formation of gall-stones, it appears quite evident that anything that will interfere with the flow of new bile through its normal channels will soon cause a pathological condition, greatly disturbing the health of the patient. Whatever the cause, we have the condition and I have no prophylactic remedy to offer. When we come to consider the symptoms of gall stones we must bear in mind that the great majority, about 75 out of 100 will be found in women. We must bear in mind also the age of the patient, as this disease is rare under the age of 25 years and much more frequent as age advances; 25 per cent, according to Naunyn, of all women over 60 years of age have gall-stones. It is worth while to bear the statistics in mind.

Ochsner finds that 80 per cent. of his patients operated upon for gall-stones complained of digestive disturbances especially and al-

most all of them had been treated by a number of physicians for gastritis. One half of his cases had never suffered from distinct biliary colic, and of those who had suffered from these symptoms one-half had been looked upon as suffering from gastralgia. Only a few of his cases had been severely jaundiced at any time and more than one half had never been jaundiced. In but a few cases were gall-stones found in the faeces. Here are three of our old classical signs absent in a majority of his cases.

Ochsner gives the following symptoms: "The symptoms which will most constantly lead to a correct diagnosis when gall-stones are present are not biliary colic, jaundice and passage of gall stones with the faeces, as we have been taught for many years, but (1) digestive disturbances, a feeling of weight or burning in the vicinity of the stomach after eating, gaseous distention of the abdomen; (2) a dull pain extending to the right from the epigastric region around the right side about at a level with the tenth rib, extending to a point near the spine and progressing upward under the right shoulder blade; (3) a point of tenderness upon pressure between the ninth costal cartilage on the right side and the umbilicus; (4) a history of having had one or more attacks of appendicitis or typhoid fever; (5) in many of these cases there is a slight tinge of yellow in the skin not sufficient to be recognized as icterus but still sufficient to be perceptible upon close inspection, especially on days on which the patient is not feeling very well, when she complains of feeling bilious; (6) there is usually an increase in liver dullness; (7) there may be a swelling of various size opposite the end of the ninth rib. Of course, if we have added to these symptoms the biliary colic, followed by distinct jaundice and possibly by the passage of biliary calculi, our diagnosis is still further confirmed; but even without these last three conditions we must make the diagnosis ordinarily, or we will miss a diagnosis in most patients suffering from gall-stones."

I quote Ochsner for the reason that I am personally acquainted with him, have seen him operate many times, and as he has operated on several hundred of these cases I consider him an authority worth quoting.

The reason Ochsner and the Mayo's operate on so many cases is that they make the diagnosis. If we can only learn to diagnose these cases many more will be treated for their true condition; and complications caused by the presence of gall-stones, such as constant digestive disturbance, carcinoma of the gall-bladders, etc., will be prevented by a timely and safe operation for their removal.

The medical treatment consists mainly in giving large quantities

of water, preferably taken hot, never eating quite enough to satisfy the hunger; sodium phosphate in drachm doses, taken in hot water 40 or 45 minutes before meals, and pure olive oil in doses of from two to six ounces at bed time. Following this treatment some cases seem to do exceedingly well, apparently recovering. I call to mind one case wherein I pursued tnis plan of treatment and she so far recovered that she did not have another attack for eight years, when the attacks of gall-stone colic returned. During an attack of gall-stone colic other things must be done. Morphine and atropine hypodermatically, hot baths, hot applications to the region of the liver, etc. Gastric lavage and rectal feeding will do a great deal to give comfort to the patient who is suffering with digestive disturbances.

Surgical treatment consists in making the incision along the outer border of the right rectus muscle, beginning at a point about one inch below the border of the ribs, extending the incision downward from two to four inches. In an obese subject you will be compelled to make the incision longer than in one whose abdominal walls are thin. After having opened the peritoneal cavity it is best to insert the index finger of the right hand into the foramen of Winslow and examine the common and cystic ducts, also the gall-bladder. This can sometimes be done through a small incision and if the duct are clear and no extensive adhesions about the gall-bladder the latter can be brought into the end of the incision and with a fine cat gut suture and a round curved needle sutured to the peritoneum about three quarters to one inch down from the fundus. After suturing the gall-bladder to the peritoneum it is well to proceed to close the rest of the incision in the ordinary way. This done, it is well to pack moist gauze about the fundus of the gall-bladder in the abdominal incision. Then asperate the gall-bladder, drawing off the bile before opening it up to remove the stones. The stones may be removed by a dressing forceps or a blunt curette, the latter I find the better for small stones. The gall-bladder may now be packed with gauze which is withdrawn in a minute or two, after having time to absorb the remaining bile, if any, and also allowing many of the small stones or sand to adhere to it. This procedure may be repeated several times if found necessary. To complete this operation we place a puckering string of silk near the top of the gall-bladder, and then placing a rubber drain about three-eights of an inch in diameter, tighten the string about it, and dress with plenty of gauze. Our patient is now put to bed and the drainage tube connected with a long rubber tube which drains the bile off into a bottle, thus keeping the dressing and bed clean.

The *modus operandi* just described is for a typical easy case, what they all should be and like they will be when we learn to make the diagnosis early, for these sufferers usually act upon the advise of their medical advisors. These typical easy cases, however, are the exception. More often you will find complications which render the operation much more difficult, requiring the utmost skill of the operator, and those who have not had a great deal of experience in abdominal surgery had better let the job out. I will not detain you with a description of the operation in complicated cases. However, difficult as these operations are at times, surgery of the gall-bladder and bile ducts has become one of the most satisfactory branches of our art. The mortality, taking the cases as they come, is hardly more than 5 per cent. and in uncomplicated cases less than 2 per cent.

If the profession could be convinced of the fallacy of the doctrine so long taught us, that gall-stones could be dissolved by internal medication, many a misguided victim would be saved a premature journey to his fathers by the internist's doing his duty, calling a surgeon to his assistance and they, working together, curing the victim's "gastralgia," his "gastritis," by removing his gall-stones.

THE VALUE OF THE EXACT DETERMINATION OF BLOOD PRESSURE IN GENERAL PRACTICE *

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(Continued from July number.)

To use the Riva-Rocci instrument, the inflatable band is adjusted around the chosen limb, preferably the arm above the elbow, as the radial pulse is most conveniently palpable, and the pressure raised until the pulse, distal to the constriction, is obliterated. The pressure is then gradually relieved till the pulsation at the wrist is

*Read before the Shawnee County Medical Society, October 5, 1903.

again felt. The mean between the two readings of the scale is equivalent to the maximum arterial blood pressure.

To use the Gaertner instrument, the inflatable ring is placed over a finger between the first and second joints. The tip of the fingers to the first joint is then rendered bloodless, before inflating the ring, by rolling a small rubber band down toward the joint, forcing the blood before it out of the terminal phalanx. The compression of the bulb now raises the pressure in the apparatus to a point beyond the probable blood pressure of the individual, whereupon the small rubber band is removed, the ring alone maintaining the anæmia by pressure on the digital arteries. The pressure is now gradually released until the blood pressure becomes sufficient to overcome the constricting force of the instrument, as evidenced by the return of color to the finger. When the color of the finger tip becomes a deep purple, the height of the column of mercury indicates the blood pressure of the given case. Instead of the mercury manometer either instrument may be equipped with a more convenient spring or aneroid indicator. But such an accessory, while more portable and compact for bedside work, is not so trustworthy as the mercury manometer, and needs to be compared with such a standard, to insure accuracy.

These two instruments it will be seen, are based on the same general principle, differing chiefly in the method of observation. The Riva-Rocci depends on the palpation of the vanishing and returning pulse; the Gaertner, upon the visual perception of returning color to the anæmic finger. Of the two senses thus appealed to by the two instruments the sense of sight may be accepted as the more reliable and more acute. And yet the Gaertner instrument has been objected to because it has to do with the small digital arteries. But Gaertner himself has shown that the pressure in the digital arteries is the same as the lateral pressure in the volar arch, and that this is only slightly, if any, lower than that of the radial arteries. Another more potent objection is that such small peripheral arteries as the Gaertner instrument utilizes are more subject to vasomotor variations than large vessels and are especially subject to local influences, such as heat and cold, etc. But these objections are not sufficiently valid to interdict the quite general use of the Tonometer, and its simplicity of mechanism and ease of application have gained for it a wide use in Europe, and are making the estimation of blood pressure a more popular and practicable procedure everywhere.

The Riva-Rocci instrument, as simplified by Cook, and hereinbe-

fore described, is certainly a valuable device. and perhaps applicable in many cases where the Tonometer cannot well be used. At any rate, the possession of both instruments by the clinician who wishes to make correct observations is strongly to be advised, for the one supplements and corrects the other. The extensile rubber bag completely encircling the arm, transmits the pressure equally through the medium of the tissues to the large arteries beneath and perpendicularly to thin walls at every point. Thus anatomic and superficial influences are minimized and perhaps a greater accuracy of measurement secured than by any other means.

It is hardly necessary to say that the indications for the use of either or both of these instruments are found in disease of the blood heart, kidneys and in certain varieties of nervous diseases. Indeed, the field of application of those methods is practically unlimited, and to discuss this phase of the subject would be in itself quite enough for a thesis if not for a volume. It is perhaps sufficient for the purposes of the present paper to briefly summarize the matter, reserving for another paper at some future time some detailed results of more extended personal observations than opportunity has afforded up to this date.

The normal maximum blood pressure averages, when lying at rest:

For children of 1 to 3 years,	85 to 95	m. m.
" " over 3 years,	95 to 110	"
" adult females,	115 to 125	"
" " males,	125 to 135	"

The mean arterial pressure is about three-fourths of the maximum.

A constant pressure of 150 to 160 should be regarded as suspiciously high. Various influences are active in modifying arterial pressure, such as posture, food, sleep, physical and mental work, phychical conditions such as grief, worry, etc. Several readings should be obtained and the average taken.

The high pressures are of special interest on account of being associated with diseases whose most dreaded symptoms are due to excessive strain upon the vessels. In uræmia and arteriosclerosis, pressures of 170 to 240 or more m. m. are said to be the rule. In interstitial nephritis a high arterial tension is characteristic, and a lowering of the pressure is usually associated with improvement of the symptoms. In the diagnosis of kidney and other diseases in which the blood pressure is symptomatically changed, the accurate

determination by one or the other of these instruments is a valuable aid.

As a prophylactic guide also such determination is of great value for it is very important to have the earliest posssible intimation in advance of a break in compensation of affected organs, as in valvular diseases of the heart and in kidney diseases. Timely knowledge may postpone such an unhappy issue.

As a prognostic adjuvant, in acute as well as chronic cases, a series of observations by one or both of these instruments may throw great light on the probable endurance of that most important organ, the heart.

And finally, in a therapeutic regimen, the measurement of the action of drugs or other treatment, given for the effect upon the heart and arterial tension may be noted with advantage.

Nothing is to be said in disparagement of the educated touch and eye and accomplished instincts of the experienced practitioner. Many of the fathers in medicine acquire faculties in perçeption which seem to border on the supernatural,

"And old experience doth attain
To something of prophetic strain."

But they cannot always define or describe their observations, nor can they transmit their acquirements to their successors. And sometimes, even after, they differ among themselves about what they have divined. But the machine or the instrument of precision will seldom lie; and there is no more reason to continue relying on the individual judgment as to the tension and other qualities of the pulse than to be content with guessing that a person has or has not a fever.

And when such simple instruments and technique as are here to be exhibited are available, there is noreason why routine observations of arterial tension should not be practiced by every physician in appropriate cases, and even intrusted to nurses or other attendants, along with the clinical thermometer.

CHOREA AND ANEMIA.*

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In the etiology of chorea, nothing is noted relative to anemia. It is simply accounted as an accompanying symptom of the condition. Medical literature emphasizes the relation between rheumatism and chorea, with anemia as an important symptom. After observation of several cases, I am strongly of opinion, however, that anemia as a causative factor is worthy of investigation.

Anemia of toxic origin presents pathological conditions which favor the production of choreic affections. It is true that simple anemia is, as a rule, of secondary origin, and, viewed in this light, it may be argued that if chorea arises, it is the result of the primary and not of the secondary conditions—thus agreeing with the admitted etiology. This argument, however, will not satisfactorily explain those cases of chorea which arise remotely from the primary condition, but recently from the secondary effects.

I submit three cases in which symptoms, treatment, and recovery seem to intimate at least a possible relation between anemia and chorea.

CASE I.—A female child of eight years gave a history of typhoid fever eight months prior to my visit. According to the mother's statement, the child had made a quick and good recovery, gaining rapidly in weight and exhibiting the energy of her former life. Six months later she became irritable and pale, with pain in her arms and legs, which condition was soon followed by gastric disorders and irregular spasms of the muscles of the face. Simple anemia was in evidence from objective and subjective symptoms alone, but was unquestioned in the light of the results obtained from blood examination—the red blood element being present to the extent of barely 3,000,000 red corpuscles per c. m.

This case was treated with two teaspoonfuls of pepto-mangan (Gude) and two drops of Fowler's solution three times a day. After gastric symptoms had abated somewhat, two raw eggs per day were added to the diet. The patient was discharged in five weeks, completely recovered.

CASE II—A female child of ten years of age; gave history of malaria (a well-defined case of intermittent fever) one year previously. The pallid condition of the child induced the mother to solicit my aid. Upon examination, I found slight choreic movements which had escaped the mother's eye though she did admit that the child "could not sit still very long at a time," and "was constantly working her

*From the Virginia Medical Semi-Monthly. May 13, 1904.

fingers." The blood examination revealed no plasmodium. The red cells were reduced to 2,800,000 per c. m., with a proportionate decrease of hemoglobin.

Pepto-mangan (Gude) alone was employed in doses of two drams in a glass of milk three times a day. The blood examination four weeks later showed red cells present to the amount of 3,900,000 per c. m., at which time I dismissed the case completely recovered.

CASE III.—A female child of thirteen years. Two months before my visit, the mother informed me, the child became peevish and pale, and was reproved at school for her inability to write neatly. She was taken from school, but she grew rapidly worse. Morning nausea, vomiting, headache, and anorexia were her daily companions. I found her with pronounced histrionical symptoms, with involvements of the upper and lower extremities. Hemic murmurs were plainly apparent, but no endocardial irritation could be determined. The blood count showed reduction in red cells to 2,100,000 per c. m. The hemoglobin was reduced to a degree greater than the red cells. A curious feature of the case was the morning nausea. Immediately upon awakening, she experienced nausea, which was followed by vomiting. I discovered, however, that this condition was superinduced by odors from the kitchen, and directed that a small sponge, moistened with creosote water, be placed over the nose and mouth before the preparation for breakfast began. The annoying symptom was promptly checked by this simple method. The anemia in this case may have been produced by malnutrition, but even this view is mere speculation.

The irritability of the stomach in this case was so pronounced that I did not deem it wise to give nourishment—not to speak of medicine—by the stomach. During the first four days rectal alimentation was employed. A nutritive enema, consisting of four ounces of peptonized milk and two drams of pepto-mangan (Gude), was given every six hours. Small amounts of peptonoids with creosote on ice were given by the stomach. Egg albumin was taken in all the water she drank. After four days the stomach was tested with small amounts of milk and pepto-mangan (Gude). Beginning with four ounces of milk and one dram of pepto-mangan (Gude) every four hours, the amount of each were rapidly increased, until after three days the patient was taking eight ounces of milk every two hours and four drams of pepto-mangan (Gude) three times a day. This diet, plus three raw eggs a day, together with the above treatment, was all that was employed for six weeks. The blood examination at this time showed a highly gratifying condition—the red cells being present to the extent of 4,100,000 per c. m. The bloom of youth once more tinted the cheek, and the shrine of St. Vitus lost a visitor.

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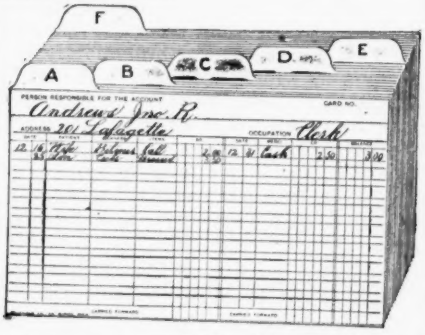

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